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ABSTRACT

This investigation is concerned with evaluating an instructional method based on Ausubel's description of expository teaching using advance organizers (AO) lessons. AO lessons are a method used to increase retention and transfer by identifying the general ideas that form the structure of a subject matter area. This study distinguishes between AO lessons which presented content concepts, those which presented process concepts (rules for classification), and those which combined both. Subjects were 237 rural elementary public school children. Within each grade, subjects were assigned to one of three experimental groups, or a control group: some received organizers which taught social studies (content) concepts while viewing slides depicting these concepts; some received organizers which taught rules for classification (process concepts) and were asked to apply these rules by classifying picture cards illustrating particular social studies concepts; some were given a combination of the two. Control subjects were given an introductory lesson consisting of factual information. Each group received a pretest and a posttest on classification skills. Results indicated that process organizers have a greater influence on task performance than did subject (content) organizers; however, a combination of the two is more likely to produce improved classification task performance than either type separately. (Author/JK)

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Transfer Effects of Different Types of Advance Organizers

by

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Transfer Effects of Different Types

of Advance Organizer

Introduction

The investigation reported here is part of a study by Lawton and Wanska (1978), and was concerned with evaluating an instructional method based on Ausubel's description of expository teaching using advance organizer lessons (e.g. Ausubel, 1963; 1968). An attempt was made to facilitate children's learning using three types of advance organizer (AO) lessons: the presentation of high-order content concepts (social studies), high-order rules (process concepts, i.e., hierarchical classification as described in Inhelder and Piaget, 1964), and a combination of both.

Ausubel (1963, 1968) contends that advance organizers facilitate both retention and transfer of learning by: a) establishing general ideas as "anchorage" for subsequent learning; b) providing a potentially meakingful structure of general propositions under which subsequent subordinate concepts may be subsumed; and c) reducing the possibility of rote learning since learning activities occur in related sequences. It is assumed that individuals tend to organize information in hierarchical structures. Therefore, to organize learning for sequential transfer, the first task is to identify the general ideas that form the subject-matter structure. The expository teaching of these ideas during an advance organizer lesson creates a cognitive structure which is progressively differentiated by subsequently learned specific information being integrated into the existing general ideas.

Advance organizers are contrasted with what Ausubel calls "summaries and overviews" which are presented at the same level of generality as subsequent learning materials. Summaries emphasize detail and achieve their effect primarily by simplification of learning materials and by repetition.

From Ausubel's point of view, a cognitive structure, consisting of an interrelated system of ideas existing at a higher level of abstraction than new knowledge to be learned, is required for meaningful learning to occur. Ausubel emphasizes the potential of such systems of ideas in cognitive structure for the facilitation of transfer. While transfer can occur between different subject areas (or levels of intellectual skills), it is most likely to occur between sequentially-related tasks.

Ausubel argues that the most fundamental and pervasive type of transfer is sequential. This type of transfer is very similar to that termed near-near transfer (e.g. Brainerd, 1975). Brainerd has described three types of transfer: a) near-near, e.g., training on class inclusion using dwellings transfers to class inclusion problem involving tools; b) near-far, e.g., training on addition classification transfers to cross classification; c) far-far, e.g., training on additive classification transfers to understanding of relations. In this paper we are concerned with the first two types of transfer.

As mentioned previously, the first task in organizing learning for sequential transfer is to identify the general ideas that form the structure of a subject-matter area. These ideas can then be incorporated into an AO and taught expositorily. For young children,

all concepts taught by this means must be identified by adequate examplars. However, this does not appear, by itself, to guarantee hierarchical learning (Lawton, 1977). For example, sequencing content presentation so that the learner observes -Primitive people = Bushmen + Australian Aborigines + Eskimos-may not result in a parallel understanding of the inclusiveness of the class relationship. Providing a general rule for both (a) establishing classes, and (b) demonstrating class relations, appears to facilitate not only the subsequent learning of content structure but also the process structure of classifying. In this study, a distinction was made between AO lessons which presented a structure of subject matter content, those which presented a structure of process and those which combined both and sought to demonstrate the importance of their interdependence.

Investigations attempting to train classification skills have reported varying degrees of success depending upon the training procedures and scoring criteria utilized, developmental level of the subjects, and the type of trnasfer assessed (e.g., Ahr & Youniss, 1970; Bingham-Newman & Hooper, 1974; Brainerd, 1974; Hooper, 1972; Inhelder & Sinclair, 1969; Kohnstamm, 1963, 1967; Morf, 1959; Pascual-Leone & Bovet, 1966).

Multiple training strategies approaching normal environmental experiences have generally been more successful in demonstrating far transfer effects than have specific training procedures (e.g., Sigel, Roeper, & Hooper, 1966; Shantz & Sigel). Beilin (1971) pointed out that the more successful methods of training have been verbal and used some kind of rule instructional procedure.

Initial studies of the subsumption theory of learning reported significant instructional effects (e.g., Ausubel, 1960; Ausubel & Fitzgerald, 1961, 1962). Secondary studies assessing the effectiveness of different types of advance organizers in a variety of subject areas have reported both facilitatory (e.g. Anderson, 1973; Lawton, 1977; Scandura & Wells, 1967; Weisberg, 1970) and non-facilitatory effects (e.g. Barron, 1971; Caponecchi, 1973; Clawson & Barnes, 1973). The efficacy of advance organizer lessons as a teaching method has been debated by several investigators (e.g., Barnes & Clawson, 1975; Lawton & Wanska, 1977; West & Fensham, 1974). It is obvious that a more rigorous study of both the structure and effect of AOs is necessary.

In the experiment described in this report, kindergarten, third, and fifth grade children were trained to acquire either content concepts dealing with ideas about how people satisfy certain basic needs (particularly with reference to shelter and tools), process concepts (i.e., hierarchical classification), or both. The experiment focused upon three questions:

1. Does experimentally induced hierarchical classification (As defined in Inhelder & Piaget, 1964) transfer to "near" concept problems (i.e., near-near transfer)?
2. Does experimentally induced hierarchical classification transfer to cross classification (i.e., near-far transfer)?
3. If there is transfer in the case of both (1) and (2), is the degree of transfer equivalent for content concepts, process concepts, and a combination of both?

Method

The study consisted of two sequentially related experiments (Phases 1 and 2), each having a pre- and post-test. The pretests were given 1 to 10 days before instruction and the posttests were given within 5 days after instruction. A 3-week time interval elapsed between the Phase 1 posttest and Phase 2 pretest. A delayed posttest and transfer test were administered 5 months after completion of Phase 2. Subjects were tested individually in 15 to 30 minute sessions by 1 male and 6 female testers. Each pre- and post-test required 2 to 3 sessions to complete. All lessons were taught by the second named author to groups of 7 to 10 children.

Subjects

The subjects in this study were 237 rural children selected from kindergarten, third, and fifth grades in two public school systems. The initial subject sample of 308 was reduced because of children either passing or not cooperating on the initial pretest, children moving out of the school district during the course of the study, and extended illnesses which made continuation in the study impossible. Distribution of the sample by age is presented in Table 1 (attached).

Materials

All the tasks (spontaneous classification (SC), some/all (SA), class inclusion (CI), cross classification (CC) involved the use of picture cards, depicting people, dwellings, and tools from particular cultures. The stimulus materials for the pretests and posttests of Phases 1 and 2 are listed in Table 2 (attached).

The classification problem, introduced as a card game, initially involved the identification of picture cards. The subject was then asked to put the cards into groups in some way. The following is a brief description of the relevant tasks and the scoring procedures used.

Spontaneous Classification. A score of 2 was given for a correct exhuastive classification, meaning all elements were correctly classified into subordinate groups (e.g., Aborigines, East-Africans, Japanese). A score of 1 was given for a partial classification, meaning: (a) three subgroups were made with at least one or two groups correctly classified, or (b) three subgroups were made with misplaced cards in each but with the majority of cards in each subgroup correctly classified. Any other responses were considered as no classification and were scored as a 0. The score range for the combined content areas (people and dwellings or tools) was 0 to 4. A correct exhaustive sort of all picture cards was required for the pass/fail scoring criterion.

Some/All. Sub- and super-ordinate groups were identified and standard some/all questions were asked, e.g., Are all the people primitive people? A score of 1 was given for each correct response and a 0 for each incorrect response. For Phase 1 pretest and posttest the score range was 0 to 5 for each content area (people, dwellings, or tools) and 0 to 10 for the combined content areas (people + dwellings; people + tools). For the Phase 2 tests the score range was 0 to 6. The passing criterion for Phase 1 was 8 out of 10 correct responses and for Phase 2, 4 out of 6 correct responses.

Class Inclusion. Sub- and super-ordinate groups were identified and standard class inclusion questions were asked, e.g., Are there more people or more Japanese people? Each item was given a score of 1 if the subject gave a correct judgment and an adequate explanation. An explanation was judged as adequate if the subject communicated an understanding of the subordinate/superordinate class relationship in the inclusion task. Any other responses were scored as 0. A decision was made to impose a strict scoring criterion since in these class inclusion tasks the probability of giving a correct judgment for the wrong reason was extremely high. For Phase 1 the scoring range was 0 to 3 for each content area (people, dwellings, tools) and 0 to 6 for the combined content areas (people + dwellings or people + tools). For Phase 2 and the delayed posttest the score range was 0 to 6. The class inclusion transfer task had a score range of 0 to 7. The passing criterion for both Phases 1 and 2 was four out of six correct responses.

Cross Classification. The cross classification task was scored in two ways. The subject were given a pass score if all picture cards were correctly cross-classified and a fail score if any cards were misplaced. A second scoring criterion was used to assess emerging classificatory abilties. The criteria are presented in Table 3 (attached).

The materials for the instructional sessions varied according to treatment condition and phase of training.

Subject Organizers (AO1). The materials for the subject organizers in both Phases 1 and 2 consisted of a short story illustrated by 35 mm slides. The stories presented general ideas (high-order content concepts)

about the ways in which primitive and advanced communities satisfy certain basic needs, specifically with reference to the provision of shelter and tools. The slides depicted either a single exemplar of a concept, a group of related exemplars, or a comparison of different but related concepts (e.g., dwellings = early men's dwellings + present-day men's dwellings).

Process Organizers (A02). The materials for the process organizers consisted of a reading passage and a series of ten picture cards (4½" x 5½"), illustrating exemplars of particular concepts (e.g., Phase 1: building materials -boards, bricks, ice blocks-). The reading passages presented general ideas (high-order rules) about the ways in which subject matter concepts might be arranged in a structure of subordinate and superordinate concept relationships (i.e., hierarchical classification), and how both types of concepts might be compared (i.e., with reference to the relationships in class inclusion). For example: Rule 1--Look at the objects. See if any are the same. Put together the objects that go together because they are the same in some way. Is there a name for that group of objects? The name should say something about how the objects are alike. Keep remembering the name for that group of objects. Is there a name for each group of objects? Keep remembering the name for each group of objects you make. Rule 4--Now, what are the names of the small groups? What is the name of the large group? You need to remember the smaller groups and their names and the large group and its name so that you can compare the groups.

Subject/Process Organizers (AO3). For both Phases 1 and 2, materials for the AO3 were a combination of materials from the AO1 and AO2 lessons.

Introductory Lessons (IL). The introductory lesson given to control subjects also involved a short story. Concepts referred to in the story were illustrated by 35 mm slides (e.g., present-day man, stone hand-tools, hut). The story presented both factual information and low-order concepts referring to primitive and advanced communities, their dwellings, tools, and way of life.

Procedure

Within each grade subjects were assigned to one of three experimental groups or to a control group. Subjects receiving the subject organizer were taught high-order social studies (content) concepts related to primitive and modern man while viewing slides depicting some of these concepts. Subjects assigned to the process organizer group were taught high-order rules (process concepts) for hierarchical classification and were asked to apply these rules by classifying a series of picture cards illustrating particular social studies concepts. In the combined subject/process organizer, subjects were given the same instruction as the two previous groups. Control subjects were shown slides and taught an introductory lesson, consisting of factual information or low-order concepts.

Results

Phase 1: Since preliminary analyses of pre- and post-test data indicated no differences in performance on the three stimulus series or between schools, these factors were excluded from subsequent analyses.

Because of ceiling effects on SC and SA tasks these analyses are not relevant to the present report. Pretest and posttest data are presented in Table 4. (attached).

Analyses of variance conducted on the pretest data indicated no significant treatment group differences on any of the tasks. Similar analyses of posttest data revealed a significant treatment group effect for class inclusion performance (F (3,233) = 3.61, p < .05, order of effect: A03→A02→A01/C).

Phase 2: Pretest and posttest data from phase 2 are presented in Table 5 (attached). The class inclusion pretest data of Phase 2 revealed continued significant treatment effects (F (3,233) = 3.58, p <.05), indicating that the instructional effect was durable over a period of three weeks and generalizable to new content material. These treatment group differences were maintained on the posttest of Phase 2 (F (3,233) = 3.61, p <.05). Posthoc analyses revealed the continued superiority of the A03 group over the control and A01 groups.

Analyses of variance on the pretest cross classification data indicated no treatment group differences. Although significant differences were not found on the pretest, the mean scores for the advance organizer groups, particularly A02 and A03, were greater than the control group scores. These higher scores suggested more transfer of training from the high-order process concepts presented to the A02 and A03 groups in Phase 1.

Analysis of posttest cross classification data revealed significant treatment effects (F (3,233) = 2.71, p <.05). An overall transfer

effect to cross classification for those experimental groups receiving high-order process and/or content concepts in two instructional phases was indicated by posthoc analyses.

Delayed Posttest and Transfer Test: To examine the durability of learning, the Phase 2 posttest CC and CI tasks were readministered. To test for generalizability of class inclusion instruction, a CI near-far transfer task was also administered. The results of the delayed post-tests and near-far transfer task are presented in Table 6. (Attached).

A three-way analysis of variance (factors: grade x treatment group x time of testing) conducted on the class inclusion data indicated a significant main effect for treatment condition (F (3,924) = 9.68, p <.01) but not for time (F (9,924) = 0.28, n.s.). Tukey tests of gaps between means showed that across four times of testing, A03 subjects in all three grades were consistently superior to control group subjects. In general, the order of advance organizer effectiveness was: A03→A02 →A01/C.

A similar analysis conducted on the cross classification data indicated a significant treatment effect (F (3,924) = 8.75, p <.001). Posthoc pair-wise comparisons revealed the continuing superiority of the advance organizer groups and particularly the A03 group. The order of training effectiveness shifted to A03→A01→A02/C.

The results from the delayed posttest and transfer test indicated that: 1) performance on class inclusion and cross classification remained stable over a considerable period of time, and 2) instruction on class inclusion process concepts generalized to a class inclusion transfer task

having different content concepts. In general, these findings supported the order of advance organizer effectiveness found in Phases 1 and 2.

Conclusions

Several conclusions can be drawn from the data. First, there is clear evidence that near-near transfer occurred. Improved performance on additive classification (class inclusion) was maintained over four times of testing. Second, while near-far transfer from additive to multiplicative classification was not indicated by Phase 2 pretest performance, such transfer was evident from the Phase 2 posttest and delayed posttest data. Third, there was clear evidence that combining high-order content and process concepts is more likely to produce improved performance on classificatory tasks than either types of concept separately. The results also indicated that high-order process concepts (AO2) had a greater influence on classification task performance than did high-order content concepts (AO1). It should be noted that the tasks utilized required process skills. There was little or no emphasis on the mere identification or recognition of content structure, except as a substage in problem-solving. Scandura (1977) has argued that knowing the content structure of subject matter is not equivalent to specifying the relevant competencies the individual requires to understand that structure.

The most likely reasons for the later appearing transfer effects from class-inclusion to cross-classification appear to be the repeat content on primitive (modern) farming communities, and (2) further experience in learning general ideas about hierarchical classification.

It must be remembered that at least the initial phases in constructing a cross-classified matrix require such knowledge.

To complete a cross classification of the materials used in this study (communities of farmers, their dwellings and tools), the child needed to complete interim constructions of related subclasses in separate categories. These constructions required an understanding of multiple class relationships. Since a correctly cross classified matrix displays multiple class relationships, it can be argued that an understanding of these process concepts is likely to facilitate cross classification without necessarily guaranteeing a full understanding of this process.

The significant difference in performance of all E group children (especially E3) compared to controls supports the contention that when an understanding of high-order subject matter and related process concepts (in this case, rules for hierarchical classification) coincide, a high level of performance is likely to ensue. These data support the findings by Lawton (1977). He concluded that enhanced understanding of social studies concepts (content concepts) appeared to facilitate classification and, once subordinate classes in a superordinate category had been clearly identified, a placing of the classes into a matrix of interrelated classes. The analysis of responses according to the six levels of sub-routines within the cross classification task (i.e., interval data) clarifies this interpretation.

In summary, the findings of near-near and near-far transfer in this investigation demonstrated the effectiveness of a training method

using advance organizer lessons involving the presentation of high-order subject matter concetps and high order process concepts. The effect on learning was most pronounced in connection with the AO lesson where crucial relationships between the structure of content and that of process were demonstrated and taught. The strongest transfer effect was of the near-near type. Near-far transfer (cross-classification in this case) occured less strongly. It appears that such transfer is indeed more difficult to achieve. Greater care in constructing comparative organizer lessons (see, for example, Ausubel, 1963, p. 83) may result in greater facilitation of this transfer, coupled with more extensive exposure to relevant information and more time to practice this learning.

Table 1

Distribution of the Sample by Grade, Mean Age, and Mean Peabody Picture Vocabulary Test Score

Grade	Subjects	Mean Age (months)	S.D.	Mean PPVT	S.D.
K	87	68.36	4.02	110.4	14.5
3	83	105.16	4.34	107.5	12.6
3	67	131.90	4.80	103.8	15.6

Table 2

Stimulus Materials Used in Testing Sessions

Testing Session	Number of Picture Cards Representing Each Culture		
	Modern	Primitive	
Phase 1 Pretest	Japanese	Aborigine	East African
People	3	4	2
Dwellings	4	3	5
Tools	5	4	3
	Modern	Primitive	
Phase 1 Posttest	Present-day	Early-Eskimo	Stone-Age
People	3	2	4
Dwellings	5	3	4
Tools	5	3	4
	Primitive	Modern	
Phase 2 Pretest	Fulani	Canadian Wheat Farmers	Newfoundland Fishermen-Farmers
People	4	4	2
Dwellings	3	4	2
Tools	4	2	3
	Modern	Primitive	
Phase 2 Posttest	Norwegian Fishermen-Farmers	Thai Rice Farmers	African Farmers
People	2	3	4
Dwellings	2	2	4
Tools	3	2	4

Note. These groups can be classified into a variety of sub- and superordinate groups.

Table 3

Second Scoring Criteria for Spontaneous Cross Classification

Score	Criteria
0	Complete failure to classify even part-whole relationships.
1	Simplest reactions of grouping elements into classes. Little indication of attempts to subclassify or to cross classify.
2	Some of the elements are correctly classified into whole or partial subclasses. Simultaneous relationships are still ignored.
3	At least one series of picture cards is correctly classified into its component subclasses along one dimension. Other elements may be partially classified correctly.
4	At least two series are correctly classified. An attempt is made to cross classify, but the child cannot yet fully justify simultaneous relationships.
5	Fairly immediate correct cross classification. Correct solutions may be reached by trial and error.

Table 4

Mean Scores and Standard Deviations on Classification Tasks in Phase 1

Grade/ Treatment Group	N	Pretest						Posttest					
		Spontaneous Classification[1]		Some/All[2]		Class Inclusion[3]		Spontaneous Classification[1]		Some/All[2]		Class Inclusion[3]	
		Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
K-E1	22	2.4	(1.3)	7.7	(1.2)	0.3	(.74)	3.0	(1.4)	8.0	(1.4)	1.6	(2.0)
K-E2	22	1.8	(1.4)	6.9	(1.3)	0.2	(.75)	2.6	(1.5)	7.2	(1.6)	0.6	(1.1)
K-E3	21	2.0	(1.6)	6.9	(1.1)	0.3	(.69)	2.5	(1.7)	8.0	(1.3)	1.7	(2.1)
K-C	22	1.8	(1.3)	7.1	(1.4)	0.1	(.44)	2.4	(1.6)	7.5	(1.5)	0.6	(.63)
3-E1	21	3.2	(1.2)	8.5	(1.1)	1.3	(1.7)	3.9	(0.5)	9.2	(1.2)	3.0	(2.4)
3-E2	18	3.3	(0.8)	8.2	(1.2)	1.4	(1.7)	3.7	(0.8)	9.3	(1.2)	3.5	(2.4)
3-E3	22	3.7	(0.6)	8.9	(0.8)	1.6	(1.7)	3.8	(0.5)	9.6	(0.7)	4.0	(2.3)
3-C	22	3.7	(1.0)	8.6	(1.1)	1.1	(1.3)	3.7	(0.7)	9.1	(1.3)	2.4	(2.4)
5-E1	17	3.8	(0.4)	8.6	(1.2)	2.6	(1.6)	4.0	(0.0)	9.1	(1.4)	3.8	(2.4)
5-E2	15	3.9	(0.3)	9.1	(0.8)	2.7	(2.2)	4.0	(0.0)	9.4	(0.6)	4.3	(2.3)
5-E3	15	3.7	(0.6)	9.5	(0.7)	2.7	(1.9)	4.0	(0.0)	9.5	(0.5)	5.0	(1.7)
5-C	20	3.4	(0.9)	9.5	(0.3)	2.6	(1.7)	3.9	(0.3)	9.5	(0.4)	3.7	(1.9)

[1]Score Range = 0 - 4

[2]Score Range = 0 - 10

[3]Score Range = 0 - 6

Table 5

Mean Scores and Standard Deviations on Classification Tasks in Phase 2

Grade/ Treatment Group	N	Pretest						Posttest					
		Cross Classification				Class Inclusion[4]		Cross Classification				Class Inclusion[4]	
		Pass/Fail Scores[2]		Interval Scores[3]				Pass/Fail Scores[2]		Interval Scores[3]			
		Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
K-E1	22	0.1	(0.4)	1.6	(1.7)	0.3	(1.0)	0.2	(0.3)	2.1	(1.8)	0.7	(1.8)
K-E2	22	0.1	(0.3)	1.3	(1.8)	0.1	(0.2)	0.2	(0.2)	2.4	(1.9)	0.9	(1.8)
K-E3	21	0.1	(0.3)	0.9	(1.2)	0.4	(1.0)	0.3	(0.3)	2.1	(2.1)	1.9	(2.4)
K-C	22	0.0	(0.0)	0.5	(0.7)	0.2	(0.7)	0.3	(0.3)	1.7	(2.3)	0.6	(1.1)
3-E1	21	0.2	(0.4)	2.8	(1.3)	2.7	(1.9)	0.4	(1.1)	3.5	(1.4)	3.5	(2.3)
3-E2	18	0.4	(0.3)	3.0	(1.7)	3.0	(2.3)	0.7	(0.8)	4.1	(1.4)	4.3	(1.9)
3-E3	22	0.4	(0.3)	3.2	(1.4)	4.1	(2.1)	0.8	(1.2)	4.6	(0.8)	5.2	(1.4)
3-C	22	0.4	(0.2)	2.6	(2.0)	2.0	(1.9)	0.4	(0.5)	3.2	(1.1)	3.4	(2.4)
5-E1	17	0.4	(0.2)	3.3	(1.6)	4.3	(1.7)	0.8	(0.1)	4.9	(0.2)	4.7	(1.8)
5-E2	15	0.5	(0.6)	3.6	(1.6)	4.5	(2.0)	0.9	(0.1)	4.9	(0.3)	5.4	(1.3)
5-E3	15	0.7	(0.4)	4.0	(1.7)	4.8	(1.3)	0.9	(0.1)	4.9	(0.4)	5.7	(0.6)
5-C	20	0.5	(0.5)	3.2	(1.8)	3.8	(2.4)	0.6	(0.4)	4.0	(1.4)	4.2	(2.1)

[1]Score Range = 0 - 6

[2]Score Range = 0 - 1

[3]Score Range = 0 - 5

[4]Score Range = 0 - 6

Table 6

Mean Scores and Standard Deviations for Delayed Posttests and Near-Far Transfer Task

Grade/ Treatment Group	N	Delayed Posttests						Transfer Task	
		Cross Classification				Class Inclusion[3]		Class Inclusion[4]	
		Pass/Fail Scores[1]		Interval Scores[2]					
		Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
K-E1	22	0.5	(1.7)	3.6	(1.7)	1.2	(1.8)	2.0	(1.9)
K-E2	21	0.4	(2.2)	3.1	(1.9)	1.1	(1.5)	2.1	(1.7)
K-E3	21	0.6	(2.3)	3.5	(1.9)	1.7	(1.8)	3.0	(2.1)
K-C	21	0.3	(2.8)	2.5	(2.1)	1.0	(1.5)	1.9	(1.4)
3-E1	20	0.6	(0.5)	4.6	(1.2)	4.1	(1.9)	5.2	(1.9)
3-E2	18	0.7	(0.5)	4.2	(1.5)	4.1	(1.8)	5.7	(2.3)
3-E3	21	0.9	(0.3)	4.9	(0.3)	5.2	(1.1)	6.4	(1.1)
3-C	22	0.3	(0.7)	2.8	(2.1)	3.7	(2.1)	4.4	(1.7)
5-E1	16	1.0	(0.0)	5.0	(0.0)	4.8	(1.5)	5.4	(1.7)
5-E2	15	0.7	(0.4)	4.3	(1.3)	5.2	(1.4)	5.9	(1.7)
5-E3	13	1.0	(0.0)	5.0	(0.0)	5.6	(0.5)	6.5	(1.1)
5-C	19	0.5	(0.5)	4.0	(1.3)	4.6	(1.9)	5.4	(1.5)

[1]Score Range = 0 - 1

[2]Score Range = 0 - 5

[3]Score Range = 0 - 6

[4]Score Range = 0 - 7

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